

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau(43) International Publication Date
18 December 2003 (18.12.2003)

PCT

(10) International Publication Number
WO 03/105140 A1(51) International Patent Classification⁷: **G11B 7/007**(21) International Application Number: **PCT/KR03/01112**(22) International Filing Date: **5 June 2003 (05.06.2003)**(25) Filing Language: **English**(26) Publication Language: **English**

(30) Priority Data:

10-2002-0031744	5 June 2002 (05.06.2002)	KR
10-2002-0031745	5 June 2002 (05.06.2002)	KR
10-2002-0031746	5 June 2002 (05.06.2002)	KR

(71) Applicant (for all designated States except US): **LG ELECTRONICS INC.** [KR/KR]; 20, Yoido-dong, Youngdungpo-gu, Seoul 150-010 (KR).

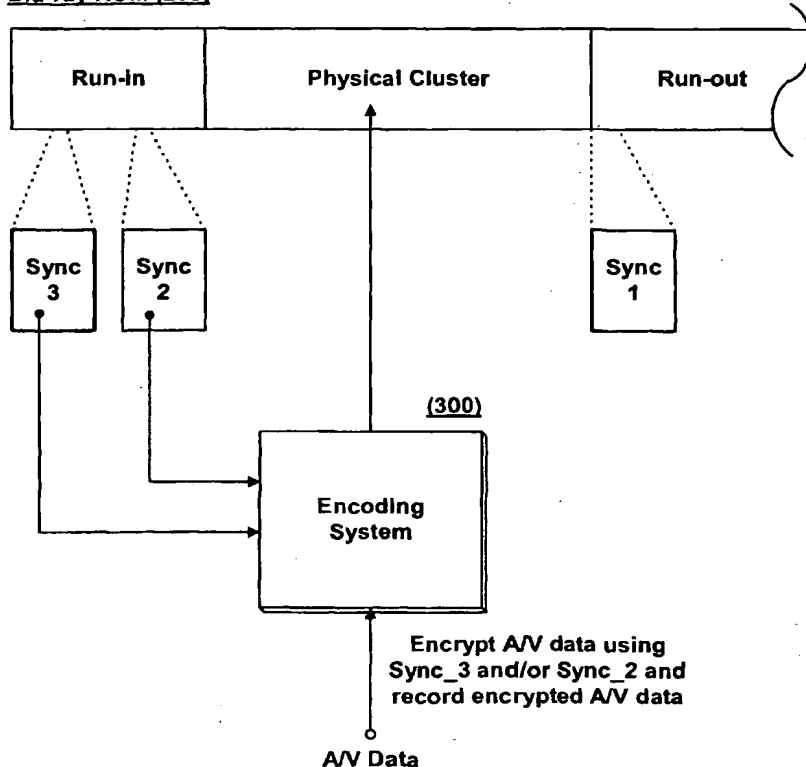
(72) Inventors; and

(75) Inventors/Applicants (for US only): **KIM, Jin Yong**[KR/KR]; 109-602, Seonkyung Apt., Yatap-dong, Bundang-gu, Seongnam, Kyunggi-do 463-928 (KR). **SUH, Sang Woon** [KR/KR]; 110-709, Hyundai Apt., 1346, Seocho 2-dong, Seocho-gu, Seoul 137-861 (KR).(74) Agent: **PARK, Lae Bong**; 1Fl., Dongun Bldg., 413-4, Dogok 2-dong, Kangnam-gu, Seoul 135-272 (KR).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,

[Continued on next page]

(54) Title: **HIGH-DENSITY OPTICAL DISC, METHOD FOR RECORDING AND REPRODUCING ENCRYPTED DATA THEREON****Blu-ray ROM (200)**

(57) Abstract: A high-density optical disc, a method for encrypting data and recording the encrypted data thereon, and a method for reproducing the encrypted data recorded thereon. Data recorded on a high-density optical disc such as a Blu-ray disc-read only memory (BD-ROM) is recorded in a discontinuous recording format as on a high-density rewritable optical disc such as a Blu-ray disc rewritable (BD-RE). Data can be encrypted and recorded using synchronous data, address unit number (AUN) information or disc radius information recorded in the high-density optical disc. An optical disc apparatus such as a BD-ROM player can maintain reproduction compatibility with the high-density rewritable optical disc such as the BD-RE. A user holding an optical disc apparatus such as a BD-RE recorder, etc. can be prevented from unlawfully copying data recorded on the high-density optical disc and reproducing the copied data.

WO 03/105140 A1

WO 03/105140 A1

ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,
SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM,
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Published:

— *with international search report*

INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR03/01112

A. CLASSIFICATION OF SUBJECT MATTER

IPC7 G11B 7/007

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7 G11B 7/00-7/24, G11B 20/00-20/24

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Korean patents and applications for inventions since 1975

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
WPI,PAJ"DISCONTINUOUS","FORMAT","ENCRYPTED","HIGH","DENSITY","COPY "

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	JP 09-106625 A (VICTOR CO. OF JAPAN LTD.) 22 APRIL 1997 see abstract.	1
Y	JP 11-238305 A (SONY CORP.) 31 AUGUST 1999 see abstract.	1
Y	KR 2000-15225 A (LG ELECTRONICS INC.) 15 MARCH 2000 see abstract and claims 1-15.	1
A	JP 12-113589 A (SONY CORP.) 21 APRIL 2000 see the whole document.	
A	JP 12-195049 A (SONY CORP.) 14 JULY 2000 see the whole document.	

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

27 SEPTEMBER 2003 (27.09.2003)

Date of mailing of the international search report

29 SEPTEMBER 2003 (29.09.2003)

Name and mailing address of the ISA/KR



Korean Intellectual Property Office
920 Dunsan-dong, Seo-gu, Daejeon 302-701,
Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

SONG, Jin Suk

Telephone No. 82-42-481-5694

